WHAT IS CLAIMED IS:

1. A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, said lyophilized bead comprising:

a thermally stable enzyme; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w).

2. The lyophilized bead of claim **1**, wherein said amplification occurs in a reaction mixture comprising a volume of between about 5 μL and about 200 μL.

3. The lyophilized bead of claim **1**, further comprising a nucleoside triphosphate or a derivative thereof.

4. The lyophilized bead of claim **1**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

5. The lyophilized bead of claim **1**, wherein said weight percentage is between about 62% and about 75% (w/w).

6. The lyophilized bead of claim **5**, wherein said weight percentage is between about 68% and about 75% (w/w).

7. The lyophilized bead of claim **1**, wherein said thermally stable enzyme is selected from the group consisting of polymerase, ligase, and combinations thereof.

8. The lyophilized bead of claim **1**, further comprising a hot start methodology.

9. The lyophilized bead of claim **1**, further comprising HEPES.

10. The lyophilized bead of claim **1**, further comprising a probe.

11. The lyophilized bead of claim **1**, further comprising a reverse transcriptase.

12. The lyophilized bead of claim **1**, further comprising an internal control.

13. A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, said lyophilized bead comprising:

a forward polynucleotide primer;

a reverse polynucleotide primer; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w).

14. The lyophilized bead of claim **13**, wherein said amplification occurs in a reaction mixture comprising a volume of between about 5 μL and about 200 μL.

15. The lyophilized bead of claim **13**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

16. The lyophilized bead of claim **13**, wherein said weight percentage is between about 62% and about 75% (w/w).

17. The lyophilized bead of claim **16**, wherein said weight percentage is between about 68% and about 75% (w/w).

18. The lyophilized bead of claim **13**, further comprising HEPES.

19. The lyophilized bead of claim **13**, further comprising a probe.

20. The lyophilized bead of claim **13**, further comprising an internal control.

21. The lyophilized bead of claim **13**, wherein said nucleic acid sequence is selected from the group consisting of bacterial, fungal, and viral nucleic acid sequences.

22. The lyophilized bead of claim **21**, wherein said bacterial nucleic acid sequence is derived from a member selected from the group consisting of *Bacillus Anthracis, Yersinia pestis, Clostridium botulinum, Francisella tularensis*, Group B *Streptococcus*, *Neisseria gonorrhoeae, Chlamydia trachomatis,* and *Xylella fastidiosa*.

23. The lyophilized bead of claim **21**, wherein said viral nucleic acid sequence is derived from a member selected from the group consisting of Vaccinia, West Nile Fever virus, Equine Encephalitis virus, and Foot and Mouth Disease virus.

24. A method for the amplification of a nucleic acid sequence, said method comprising:

(a) dissolving a lyophilized bead in a liquid, wherein said lyophilized bead comprises:

a thermally stable enzyme; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w), thus forming a reaction mixture; and

(b) subjecting said reaction mixture to an amplification reaction.

25. The method of claim **24**, wherein said reaction mixture further comprises a volume of between about 5 μL and about 200 μL.

26. The method of claim **24**, wherein said reaction mixture further comprises a nucleoside triphosphate or a derivative thereof.

27. The method of claim **24**, wherein said thermally stable enzyme is selected from the group consisting of polymerase, ligase, and combinations thereof.

28. The method of claim **24**, wherein said reaction mixture further comprises a forward polynucleotide primer.

29. The method of claim **24**, wherein said reaction mixture further comprises a reverse polynucleotide primer.

30. The method of claim **24**, wherein said reaction mixture further comprises a probe.

31. The method of claim **24**, wherein said reaction mixture further comprises a nucleic acid comprising said nucleic acid sequence.

32. The method of claim **24**, wherein said reaction mixture further comprises HEPES.

33. The method of claim **24**, wherein said reaction mixture further comprises an internal control.

34. The method of claim **24**, wherein said reaction mixture further comprises a hot start methodology.

35. The method of claim **24**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

36. A method for the amplification of a nucleic acid sequence, said method comprising:

(a) dissolving a lyophilized bead in a liquid, wherein said lyophilized bead comprises:

a forward polynucleotide primer;

a reverse polynucleotide primer; and

mannitol; and

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w), thus forming a reaction mixture; and

(b) subjecting said reaction mixture to an amplification reaction.

37. The method of claim **36**, wherein said reaction mixture further comprises a volume of between about 5 μL and about 200 μL.

38. The method of claim **36**, wherein said reaction mixture further comprises a nucleoside triphosphate or a derivative thereof.

39. The method of claim **36**, wherein said reaction mixture further comprises a probe.

40. The method of claim **36**, wherein said reaction mixture further comprises a nucleic acid comprising said nucleic acid sequence.

41. The method of claim **36**, wherein said reaction mixture further comprises HEPES.

42. The method of claim **36**, wherein said reaction mixture further comprises a thermally stable enzyme.

43. The method of claim **36**, wherein said reaction mixture further comprises an internal control.

44. The method of claim **36**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

45. A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, prepared by a process comprising:

(a) creating an aqueous solution, said aqueous solution comprising:

a thermally stable enzyme; and

mannitol;

wherein said solution has a concentration of said mannitol between about 0.38 M (moles of mannitol/liter of solution) and about 0.99 M (moles of mannitol/liter of solution);

(b) quick-freezing the product of (a); and

(c) freeze-drying the product of (b).

46. The lyophilized bead of claim **45**, wherein the product of (c) has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

47. The lyophilized bead of claim **45**, wherein the product of (c) further comprises a nucleoside triphosphate or a derivative thereof.

48. The lyophilized bead of claim **45**, wherein said thermally stable enzyme is selected from the group consisting of polymerase, ligase, and combinations thereof.

49. The lyophilized bead of claim **45**, wherein the product of (c) further comprises a reverse transcriptase.

50. The lyophilized bead of claim **45**, wherein the product of (c) further comprises a hot start methodology.

51. The lyophilized bead of claim **45**, wherein the product of (c) further comprises HEPES.

52. The lyophilized bead of claim **45**, wherein the product of (c) further comprises a probe.

53. The lyophilized bead of claim **45**, wherein the product of (c) further comprises an internal control.

54. A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, prepared by a process comprising:

(a) creating an aqueous solution, said aqueous solution comprising:

a forward polynucleotide primer;

a reverse polynucleotide primer; and

mannitol;

wherein said solution has a concentration of said mannitol between about 0.38 M (moles of mannitol/liter of solution) and about 0.99 M (moles of mannitol/liter of solution);

(b) quick-freezing the product of (a); and

(c) freeze-drying the product of (b).

55. The lyophilized bead of claim **54**, wherein the product of (c) has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

56. The lyophilized bead of claim **54**, wherein the product of (c) further comprises a nucleoside triphosphate or a derivative thereof.

57. The lyophilized bead of claim **54**, wherein the product of (c) further comprises HEPES.

58. The lyophilized bead of claim **54**, wherein the product of (c) further comprises a probe.

59. The lyophilized bead of claim **54**, wherein the product of (c) further comprises an internal control.

60. A lyophilized bead suitable for use in microanalytic systems comprising:

a moisture-sensitive reactant; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w); and

wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

61. The lyophilized bead of claim **60**, wherein said weight percentage is between about 62% and about 75% (w/w).

62. The lyophilized bead of claim **60**, wherein said weight percentage is between about 68% and about 75% (w/w).